

Claims

What is claimed is:

- 1 540 A2 | 1. An architecture for monitoring access of descriptors over a network, the
2 architecture comprising a descriptor mechanism for posting and storing
3 descriptors and corresponding notify command frames submitted from networked
4 control devices, wherein each descriptor comprises a unique node address
5 identifying the control device submitting the descriptor and wherein the
6 corresponding notify command frame instructs the descriptor mechanism to
7 monitor access of data contained within the accessed by a competing control
8 device.
- 1 540 A2 | 2. The architecture of claim 1, wherein the descriptor mechanism is a bulletin board
2 subunit and the descriptor is a data entry.
- 1 540 A2 | 3. The architecture of claim 2, wherein the bulletin board subunit comprises a
2 resource schedule bulletin board and wherein the data entries are resource
3 schedule entries each comprising a start time, a duration time, and an interval
4 time.
- 1 540 A2 | 4. The architecture of claim 3, wherein the resource schedule bulletin board
2 substantially conforms to an AV/C standard protocol.

- 1 5. The architecture of claim 2, wherein the network comprises an IEEE 1394-1995
2 serial bus and wherein data entries are submitted to the bulletin board subunit
3 through the network comprising the IEEE 1394-1995 serial bus.
- 1 6. The architecture of claim 2, wherein the bulletin board subunit stores a node
2 address of the competing control device.
- 1 7. The architecture of claim 6, wherein the node address of the competing control
2 device is posted within node ID data fields of the corresponding notify command
3 frames.
- 1 8. The architecture of claim 2, wherein the bulletin board subunit generates a
2 response data frame and sends the response data frame to a unique node address
3 corresponding to the data entry when the competing control device accesses the
4 data entry.
- 1 9. The architecture of claim 8, wherein the response data frame comprises response
2 data that includes a node address of the competing device.
- 1 10. The architecture of claim 6, wherein the bulletin board subunit records and further
2 stores access activity of a competing control device when the competing control
3 device performs at least one activity selected from a group consisting of reading
4 the data entry, deleting the data entry and modifying a data structure within the
5 data entry.

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 - 1 11. The architecture of claim 10, wherein activity data is posted within a data field of
2 the corresponding notify command frame.
 - 1 12. The architecture of claim 1, wherein the descriptor mechanism stores portions of
2 the descriptor that are accessed by the competing control device.
 - 1 13. The architecture of claim 12, wherein the descriptor mechanism stores portions of
2 data that are accessed by the competing control device within a data field of the
3 notify command frame.
 - 1 14. The architecture of claim 13, wherein the notify command frame corresponding to
2 the unique node address of the data entry is accessible by the control device
3 identified by the unique node address.
 - 1 15. The architecture of claim 1, wherein corresponding notify command frames are
2 submitted after descriptors from networked control devices.
 - 1 16. A method of monitoring a descriptor posted over a network from a remote control
2 device, wherein the descriptor comprises a unique node address identifying the
3 remote control device and wherein the descriptor is stored to a descriptor
4 mechanism, the method comprising:

- 5 a. submitting a notify command to the descriptor mechanism, wherein the
6 notify command instructs the descriptor mechanism to monitor the
7 descriptor for access activity by competing control devices; and
8 b. issuing a notify response to the remote control device when a competing
9 device accesses the descriptor.
- 1 17. The method of claim 16, wherein the descriptor mechanism is a bulletin board
2 subunit and the descriptor is a data entry.
- 1 18. The method of claim 16, further comprising recording and storing node addresses
2 of the competing device accessing the descriptor.
- 1 19. The method of claim 18, wherein the node addresses of the competing device is
2 recorded within a data field of the notify command frame.
- 1 20. The method of claim 18, wherein the notify response comprises data that encodes
2 for the node addresses of the competing device.
- 1 21. The method of claim 16, wherein the notify response is issued when the
2 competing device performs at least one activity selected from a group consisting
3 of reading the data entry, deleting the data entry and modifying a data structure
4 within the data entry.

9 control devices are further capable of submitting notify command frames
10 with schedule entries, wherein each notify command frame identifies a
11 corresponding schedule entry, and further wherein the notify command
12 frame instructs the resource device to monitor access of the schedule entry
13 by the control device.

- 1 28. The system of claim 27, wherein the resource device records and stores node
2 addresses of control devices accessing schedule entries after the schedule entries
3 are posted to the resource schedule bulletin board.

1 29. The system of claim 27, wherein the resource device generates a notify response
2 and sends the notify response to the unique node address of the schedule entry
3 when the schedule entry is accessed by one of the control devices.

1 30. The system of claim 29, wherein the notify response is sent when the
2 corresponding data entry is read, deleted or otherwise modified by a control
3 device having a node address that does not correspond to the unique node address
4 of the schedule entry.

1 31. The system of claim 27, wherein the resource device comprises a video receiver
2 and transmitter.

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- 1 *AN* 32. The system of claim 27, wherein the posting device and the resource device are
2 coupled together through a network which substantially complies with a version
3 of an IEEE 1394 standard.

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